CLAIMS:

1. A diversity receiver comprising a first receiving branch (10; 110) having associated thereto a first antenna element (12;112) and at least a second receiving branch (14;114) having associated thereto a second antenna element (16; 116), the diversity receiver comprising first means (18; 180) for obtaining from a first signal (20; 120) on the first receiving branch (10; 110) and a second signal (22; 122) on the second receiving branch (14; 114) a third signal (24; 124) representing an estimation of the spatial derivative of at least one receiving channel parameter, wherein the third signal (24; 124) is used to cancel or at least reduce signal distortions that occur due to time-variations of the receiving channel.

2. The diversity receiver according to claim 1, wherein the first antenna element (12; 112) and the second antenna element (16; 116) are closely spaced and arranged behind each other in the direction of motion (v) of the diversity receiver.

3. The diversity receiver according to claim 1, wherein the first means (18; 118) obtain the third signal (24; 124) as a difference between the first signal (20; 120) and the second signal (22; 122).

4. The diversity receiver according to claim 1, wherein the third signal (24; 124) is interpreted as a temporal derivative of the at least one receiving channel parameter, at least when the diversity receiver is moved.

5. The diversity receiver according to claim 1, further comprising:

- second means (26, 28, 30, 32; 126, 128, 130) for processing the third signal (24; 124) to obtain a fourth signal (34; 134);
- third means (36; 136) for processing the first signal (20; 230) to obtain a fifth signal (38; 138); and
- fourth means (40; 140) for combining the fourth signal (34; 134) and the fifth signal (38; 138) to obtain an output signal (r(t); H_0S).

6. The diversity receiver according to claim 5, wherein one or more of the first means (18; 118), the second means (26, 28, 30, 32; 126, 128, 130), the third means (36; 136), and the fourth means (40; 140) are fully or in part realized by hardware interacting with software or by discrete components.

7. The diversity receiver according to claim 5, wherein the second means (26, 28, 30, 32; 126, 128, 130) perform one or more of the following functions: filtering, sampling, A/D-conversion, serial-to-parallel conversion, multiplying with a ramp function, (Fast) Fourier Transforming, multiplying with a crosstalk matrix, and signal weighting.

8. The diversity receiver according to claim 5, wherein the second means (26, 28, 30, 32; 126, 128, 130) perform a signal weighting function comprising a multiplication with a weighting factor (α; d/v) controlled to minimize the signal distortions.

9. The diversity receiver according to claim 5, wherein the third means (36; 136) perform one or more of the following functions: filtering, sampling, A/D-conversion, serial-to-parallel conversion, and (Fast) Fourier Transforming.

10. The diversity receiver according to claim 1, wherein the at least one receiving channel parameter is a receiving channel transfer function.

11. The diversity receiver according to claim 1, wherein for creating a virtual third antenna element there are provided switching means (42) for switching from a signal on the first receiving branch (10) to a corresponding signal on the second receiving branch (14).

12. The diversity receiver according to claim 1, wherein the first antenna element (12) and the second antenna element (16) are arranged in parallel but extend in different directions.

13. The diversity receiver according to claim 1, wherein the diversity receiver is adapted to be used in one or more of the following systems: Orthogonal Frequency Division Multiplexing (OFDM) systems, Digital Audio Broadcasting (DAB) systems, Digital Video Broadband (DVB) systems, for example DVB-T systems, Digital Terrestrial Television

Broadcasting (DTTB) systems, Code Division Multiple Access (CDMA) systems, for example cellular CDMA systems, Universal Mobile Telecommunications Systems (UMTS), the Global System for Mobile communications (GSM), Digital Enhanced Cordless Telecommunication (DECT) systems, wireless local area network systems, for example according to the standard 802.11a, 802.11g, or HIPERLAN II.

14. A method for canceling or at least reducing signal distortions of a radio signal received by a moving diversity receiver, especially a moving diversity receiver according to one of claims 1 to 13, wherein the signal distortions occur due to time-variations of a receiving channel in a radio system, said method comprising the following steps:

- receiving the radio signal at two closely spaced positions differing in the direction of motion;
- estimating the spatial derivative of at least one receiving channel parameter on the basis of the radio signal received at the two positions;
- interpreting the spatial derivative of the at least one receiving channel parameter as the temporal derivative of the at least one receiving channel parameter; and
- exploiting the temporal derivative of the at least one receiving channel parameter to cancel or at least reduce the signal distortions.

15. The method according to claim 14, wherein the step of estimating the spatial derivative comprises calculating a difference between the radio signal received at a first position of said two closely spaced positions and the radio signal received at a second position of said two closely spaced positions.

16. A computer program stored on a record carrier or made available for download, said computer program being adapted to carry out the following method for canceling or at least reducing signal distortions of a radio signal received by a moving diversity receiver:

- estimating, on the basis of a radio signal received at two closely spaced positions differing in the direction of motion, the spatial derivative of at least one receiving channel parameter;
- interpreting the spatial derivative of the at least one receiving channel parameter as the temporal derivative of the at least one receiving channel parameter; and

- exploiting the temporal derivative of the at least one receiving channel parameter to cancel or at least reduce the signal distortions.

17. An antenna system for receiving a radio signal at at least two closely spaced positions differing in the direction of motion, wherein the antenna system comprises at least a first antenna element (12) and a second antenna element (16) arranged such that the mutual interaction of the radio patterns is small.